

by the confining cylinder, the geometries of which are parallel to the magnetic force lines, is considered promising. The advantages of this method are: 1) the system is nondestructive; the mechanical requirements on strength are the same as in the case of the apparatus that uses electromagnetic energy, since the magnetic pressure that collapses the liner must have the same magnitude (10^8-10^9 atm); 2) rapid application of external pressure on the liner in the started system does not require the development of high-power commutating systems; the electromagnetic set-up requires presently unavailability storage units and electromagnetic energy accumulators (10^6-10^7 J, 10^5-10^6 W); explosive systems require synchronous actuation of the detonators; 3) the use of compressed gas makes it possible to attain more efficient transmission of energy to the field in comparison with explosives and current inductive storage systems.

The most important part of the pneumatic apparatus is the system for breaking a cylindrical diaphragm that holds back all the gas pressure (by means of a cylindrical support grill). Our apparatus incorporates a high-speed magnetic "theta-pinch" type coil [7], which generates the pulse that releases magnetic pressure.

In contrast to electromagnetic systems, the rate of collapse of the liner in a pneumatic system is limited to the speed of sound in gas. When hydrogen is used at room temperature a radial liner velocity of 10^5 cm/sec is completely feasible and is attainable for most applications. Thus, in the case of thermonuclear experiments (compression of deuterium plasma in a magnetic field), the characteristic time of adiabatic compression is determined by a velocity of $\sim 10^5$ cm/sec, which, finally, requires a very long magnetic field [8].

3.1. Description of Apparatus

The apparatus for storing and converting energy (Figure 1) consists of steel body 5, which houses support grate 3 and steel diaphragm 2, installed on it. In the cavity between the diaphragm and the body is gas (H_2 or He) under a pressure of $1,000-2,000$ atm.

The diaphragm is a thin-wall steel cylinder with a wall thickness of the order of 1 mm, which is necessitated by the need for rapid and synchronous opening of all parts of the diaphragm [52].

Magnetic diaphragm rupture system 4 consists of six turns [55], wound on insulators. The design of the elements of the magnetic system is illustrated in Figure 2.

The diaphragm rupture system is powered by pulsed capacitors through coaxial sealed cables 6, insulated for 50 kV. Inside the support grate, at a distance of 1-2 mm from its inner surface, is copper liner 1, 140 mm in diameter with a wall thickness of 1-2 mm. An initial magnetic field ($B_0 = 1.2 \cdot 10^5$ G) is developed beforehand in the cavity of the liner.

UDC 534.2

USSR

GENKIN, M. D., GOLUBEV, V. S., MIGUN, YU. G., ORLOV, A. I.

"Technique and Equipment for Studying Three-Dimensional Oscillations of Rotating Parts of Reducer Installations"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 41-57 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh479)

Translation: A technique for using accelerometers to study three-dimensional vibrations of rotating parts consisting of solid bodies is presented in general form. The essence of the method consists of determining the components of translational and angular displacements of the part in a space of three measurements. These components are determined in a coordinate system connected with the part from readings of a group of accelerometers fastened to the parts in some way. Mathematically, the problem reduces to the solution of a system of algebraic equations defined by the readings of the instruments. Equipment errors in a transformation of coordinates are analyzed. Authors abstract.

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USSR

UDC 621.317.7.083.4

KARTASHOV, R. P., P'YANYKH, B. Ye., GOLUBEV, V. V.,

"Magnetic Current Null-Balance Device"

USSR Author's Certificate No 284035, Filed 4/01/70, Published 22/01/71,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychis-
litel'naya Tekhnika, No 11, 1971, Abstract No 11 A134 P from the Resume).

Translation: A magnetic current null-balance device is suggested which contains an unbalanced trigger and a transformer based on a core with a rectangular hysteresis loop, with windings displacing the measured signal and output windings. In order to increase the sensitivity, the output windings of the transformer are connected to the input of the unbalanced trigger, the outputs of which are connected to the bias windings. 3 Figures.

1/1

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USSR

UDC: 535.89

GOLUBEV, Ye. M., OGURTSOVA, N. N., PODMOSHENSKIY, I. V., ROGOVTSEV, I. N.,
Leningrad

"Experimental Investigation of the Instability of a High-Current Discharge in an Open Tube"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 4, Jul/Aug 72, pp 724-727

Abstract: The authors study the instability of a high-current discharge with vaporizable wall in tubes 50 mm in diameter and 100-400 mm long open to the atmosphere at both ends. A capacitor bank was used to produce a current pulse of 100-250 kA with a duration of 200 μ s. High-speed motion picture photography was used to investigate the space-time development of the discharge. The voltage gradient of the electric field in the plasma column was oscillographically measured by means of E-probes, and the diameter of the current channel was estimated from the erosion spot. The effect of tube length and current amplitude on discharge stability was also determined. The results of the measurements show satisfactory mutual agreement, indicating hydromagnetic instability of a high-current discharge in open tubes.

1/1

1/3 054 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINING ATMOSPHERIC PARAMETERS IN THE TRANSITION REGION AT
ALTITUDES 30 TO 120 KM -U-
AUTHOR-(03)-TRISHINA, YU.M., GOLUBEV, YE.N., MIKHNEVICH, V.V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, KOSMICHESKIYE ISSLEDOVANIYA, VOL VIII, NO 3, 1970, PP
467-470
DATE PUBLISHED-----70
SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS, ATMOSPHERIC SCIENCES
TOPIC TAGS--HYPERSONIC AERODYNAMICS, MANOMETER, GAS DISCHARGE, WIND
TUNNEL, ATMOSPHERE, BLUNT BODY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605017/D07 STEP NO--UR/0293/70/008/003/0467/0470
CIRC ACCESSION NO--AP0140740
UNCLASSIFIED

2/3 054

UNCLASSIFIED

PROCESSING DATE--04DEC13

CIRC ACCESSION NO--AP0140740

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER DESCRIBES A METHOD FOR COMPUTING THE PARAMETERS OF THE UNDISTURBED ATMOSPHERE USED IN MEASUREMENTS MADE AT THE SURFACE OF A BLUNTED BODY MOVING WITH HYPERSONIC VELOCITIES IN DIFFERENT AERODYNAMIC REGIMES FROM FREE MOLECULAR THROUGH TRANSIENT TO CONTINUOUS. THE DATA USED WERE OBTAINED USING THE HIGH ALTITUDE GEOPHYSICAL STATION, ALREADY WELL DESCRIBED IN THE LITERATURE. THE PROBLEM INVOLVED EVALUATING ALL THE FACTORS AFFECTING THE NATURE OF FLOW AROUND THE OBJECT DURING ITS MOTION IN THE TRANSITION REGION AND MAKING COMPUTATIONS ON THE BASIS OF THESE ESTIMATES. THE RESULTS OF THE COMPUTATIONS OBTAINED USING DIFFERENT METHODS WERE COMPARED. FLIGHT OF THE STATION OCCURRED IN ALL AERODYNAMIC REGIMES. MEASUREMENTS WERE MADE USING TWO MAGNETIC GAS DISCHARGE MANOMETERS MOUNTED ON THE EQUATOR OF THE SPHERICAL CAPSULE. THE VELOCITY OF CAPSULE MOTION IN THE SECTOR 140-80 KM OF THE DESCENDING BRANCH OF THE TRAJECTORY VARIED IN THE RANGE 2,600 TO 2,800 M-SEC. MOTION OF THE BODY WAS ACCOMPANIED BY THE APPEARANCE OF HIGH (ABOUT 3000DEGREESK) DECELERATION TEMPERATURES, LEADING TO DISSOCIATION OF MOLECULAR OXYGEN HAVING A LOW ENERGY OF DISSOCIATION WHICH ALREADY BEGINS AT A TEMPERATURE OF 2000DEGREESK. EXPERIMENTS IN WIND TUNNELS AND THEORETICAL COMPUTATIONS MADE IT POSSIBLE TO PROCESS THE MEASUREMENT DATA OBTAINED IN THE TRANSITION REGION 80-120 KM. IT IS SHOWN THAT THE RESULTS OBTAINED BY COMPUTATIONS WITH USE OF THE METHOD EMPLOYED FOR A FREE MOLECULAR FLOW DIFFER FROM THE RESULTS OBTAINED FOR A CONTINUAL FLOW; THE DIFFERENCE INCREASES WITH A DECREASE IN ALTITUDE.

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3/3 054

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140740

ABSTRACT/EXTRACT--THE VALUES OBTAINED USING THE MODIFIED RAYLEIGH FORMULA AGREE BETTER WITH DATA COMPUTED FOR FREE MOLECULAR FLOW IN THE REGION OF ALTITUDES 140-150 KM FOR THE MAGNETIC MANOMETER AND INDEPENDENT MEASUREMENTS WITH AN IONIZATION MANOMETER THAN WHEN USING THE RAYLEIGH FORMULA WITHOUT CORRECTION FACTORS. VERTICAL PRESSURE DISTRIBUTION WAS DETERMINED FROM THE ANALYZED DATA; DENSITY DISTRIBUTION WAS FOUND AND COMPARED WITH A DETERMINATION MADE BY THE FALLING SPHERES METHOD.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ALGORITHM FOR THE AUTONOMOUS CONTROL OF THE ARRIVAL OF A SPACECRAFT
AT A GIVEN LANDING POINT -U-
AUTHOR-(03)-OKHOTSIMSKIY, D.YE., BUKHARKINA, A.P., GOLUBEV, YU.F.
COUNTRY OF INFO--USSR
SOURCE--KOSMICHESKIE ISSLEDOVANIYA, VOL. 8, MAR.-APR. 1970, P. 169-188.
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., SPACE TECHNOLOGY
TOPIC TAGS--ALGORITHM, AUTOMATIC CONTROL, SPACECRAFT LANDING, SATELLITE
MOTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1757 STEP NO--UR/0293/70/008/000/0169/0183
CIRC ACCESSION NO--AP0115586
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0115586

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A CONTROL ALGORITHM ENSURING THE GEOGRAPHICALLY SPECIFIED LANDING OF A SPACECRAFT ACCORDING TO A SCHEME OF INITIAL REENTRY WITH EXIT FROM THE ATMOSPHERE, FOLLOWED BY FINAL REENTRY AND LANDING. THE MOTION OF THE SPACECRAFT IN BOTH REENTRY SEGMENTS IS ANALYZED. COMPUTER SIMULATION OF THE CONTROL ALGORITHM DEMONSTRATES THAT A HIGH DEGREE OF BOTH LONGITUDINAL AND LATERAL LANDING ACCURACY CAN BE ACHIEVED EVEN FOR LARGE DISTANCES OF THE INITIAL REENTRY POINT TO THE LANDING AREA, REGARDLESS OF THE LACK OF COMPLETE KNOWLEDGE OF ATMOSPHERIC DENSITY DISTRIBUTION.

UNCLASSIFIED

1/2 049 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--QUANTUM NOISES IN LASER SYSTEMS. II -U-
AUTHOR--GOLUBEV, YU.M.
COUNTRY OF INFO--USSR
SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, MAR. 1970, P. 528-534.
DATE PUBLISHED---MAR70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--LASER RADIATION SPECTRUM, KINETIC EQUATION, MATRIX FUNCTION,
PERTURBATION THEORY, TRAVELING WAVE, LASER PUMPING, ELECTROMAGNETIC
NOISE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1420 STEP NO--UR/0051/70/02B/000/0523/0534
CIRC ACCESSION NO--AP0118409
UNCLASSIFIED

2/2 049 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0118409
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DERIVATION OF A KINETIC EQUATION FOR THE FIELD DENSITY MATRIX DESCRIBING THE GENERATION OF A TRAVELING WAVE, TAKING INTO ACCOUNT PUMPING TO THE TWO OPERATING LEVELS. IT IS SHOWN THAT IN THE THIRD ORDER OF WEAK FIELD PERTURBATION THEORY THIS EQUATION CAN BE REDUCED TO THE FOKKER PLANCK EQUATION BY CONVERTING OVER TO A DIAGONAL REPRESENTATION OF THE DENSITY MATRIX. THE SPECTRAL COMPOSITION OF THE OUTPUT RADIATION IS DETERMINED, SHOWING THAT THE SWITCHOVER TO A DISGONAL REPRESENTATION MAKES IT POSSIBLE TO OBTAIN A MORE ACCURATE SOLUTION TO THE PROBLEM THAT WAS OBTAINED BY SCULLY AND LAMB.

UNCLASSIFIED

EQUIPMENT
Aeronautical

USSR

UDC 629.7.028.25

BALYKIN, M. S., GOLUBEV, Yu. V.

"A Device for Loading Containers Onto Aircraft"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 21, Jul 73, Author's Certificate No 380536, Division B, filed 28 Jul 69, published 15 May 73, p 67

Abstract: This Author's Certificate introduces a device for loading containers onto aircraft. The device contains a winch with a system of cables passing over rollers. The cables are fastened by pairs to the flanges of girders mounted on the containers. As a distinguishing feature of the patent, the working reliability of the device is improved by including a transfer link with one end connected by a cable to the winch, while the other end is connected to the hoisting cables on the container. This transfer link is made with a T-head which fits in a guide groove on girders in the deck of the aircraft.

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AA0052389-

GOLUBEV

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

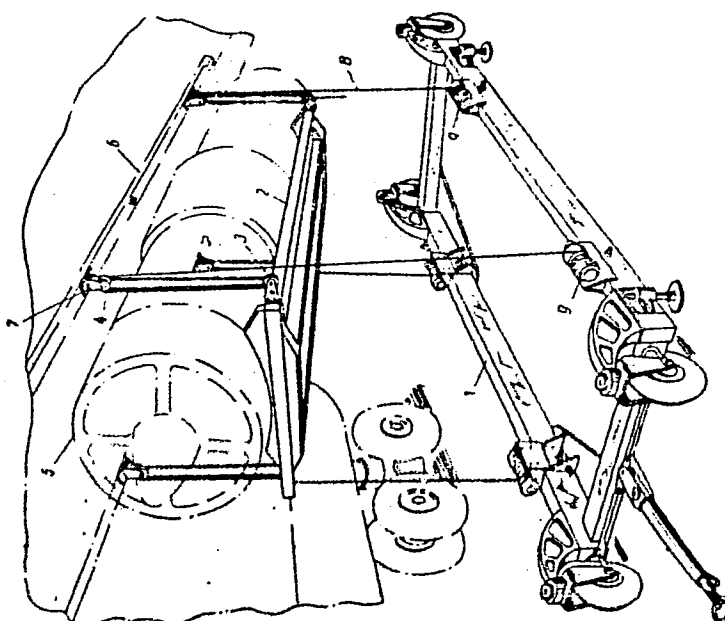
243414 LIFTING DEVICE FOR AEROPLANES consists of truck, with loading platform 2, and is distinguished by mounting a polypast on the loading platform. The polypast lower block 3 is fixed to the platform, whereas the upper one is used to fix the aeroplane into the board. The polypast cable are connected to the hoist 9 fixed to the truck.

17.2.68 as 1218674/40-23.M.S.BALYKIN et al.(15.9.69)
Class 62c.Int.Cl.B 64f.

Balykin, M. S.; Golubev, Yu. V.; Nikiforov, L. A.;
Chernyshev, A. S.; Shekhterman, Ye. I.

19820989

AA0052389



19820990

USSR

UDC 621.396.96

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH

"Introduction To Radar Systems Engineering"

Vvedeniye v radiolokatsionnyuyu sistemotekhniku (cf English above), Moscow, Izd. "Sov.radio," 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

Abstract: The principal problems are considered of the theory of large radar systems which contain, spaced with respect to territory, groups of radar stations, units for processing information, and means for data transmission. On the basis of an analysis of the distribution of functions among the elements of the system, a classification of radar systems is conducted. A function of the effectiveness of large radar systems is proposed; the dependence is considered of the effectiveness on the quality indices and on the technical parameters of the system. The principal classes of radar systems are analyzed -- independent, noncoherent, videocoherent, coherent, and multistage. The principles and methods are stated of the operational control of a radar system in the process of its functioning. The concepts are stated which lie at the base of planning large radar stations according to the principle "effectiveness--cost." All numerical data and examples are selected by methodical considerations and bear an illustrative character. The book is intended for engineer-technical and scientific workers

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-MOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

working in the fields of systems engineering and the creation of large radar
 systems, and can also be helpful to students of senior courses of radio engineer-
 ing higher educational institutes.

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Vvedeniye v radiolokatsionnuyu sistemotekniku, Moscow, Izd. "Sov. radio,"
 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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5/5

GOLUBEVA, A.A.

Psychology

30 JUL 71

95

YD: CYBERNETICS

55. USSR

44-44-1-1

(1)

GOLUBEVA, A.A., and ZHURAVSKAYA, N.S., Institute of General and Pedagogical Psychology, Academy of Pedagogical Sciences of the USSR, Moscow

"On Correlations between the Productivity of Memory and the Strength of the Nervous System"

Moscow, Voprosy Psichologii, No 2, Mar/Apr 71, pp 122-124

Abstract: As an indicator of nervous system strength, the authors use the impression of a rhythm of light stimuli; the greater the impression reaction, the weaker the nervous system. Memory function was determined by giving the subjects different amounts of a variety of material to memorize, and testing their recall immediately, after 20 hours, and after one week. In recalling syllables, these subjects with stronger nervous systems (weaker impression reactions) had a definite advantage, although the correlation was only significant at the 0.01 or 0.05 levels for the recall of larger volumes of material. In the memorization of phrases there was no such obvious advantage, but there was some indication of an advantage for those with weaker nervous systems. The correlations for syllables were with EEG readings from the right hemisphere at 4, 6, and 8 cycles per second, while those for lexical material were with left hemisphere readings at 4 cycles per second only.

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(0) Foreign Press Digest

30 JUL 71

USSR

GOLUBEVA, A.A., et al, Voprosy Psichologii, No 2, Mar/Apr 71, pp 122-124

In general the authors conclude that correlations do exist between memorization and nervous system strength, but that the impression reaction is a complex and indirect indicator of this strength.

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USSR

UDC 616.981.42

VERSHILOVA, P. A., and GOLUBEVA, A. A.

Brutsellez v SSSR i Puti Yego Profilaktiki (Brucellosis in the USSR and Ways to Prevent It), Moscow, "Meditsina", Moscow, 1970, 192 pp

Translation: Foreword: This book is devoted to the study of brucellosis in the USSR and the fight against it. Literature data and epidemiological surveys of brucellosis are presented in the book. The authors' main task is to present the epidemiological features of brucellosis in the USSR, current achievements in the fight against it, and the direct of measures for further curtailing this infection in the nation. Veterinary scientists and specialists have made a great contribution to the problem of studying and working out methods and ways to eradicate brucellosis among livestock. This has been reflected in numerous corresponding publications, and therefore in the present book the task of providing complete information on this subject has not been set. Brucellosis has been studied as an independent disease since 1860. However, the history of the study of brucellosis in the Soviet Union began in the first decade after the Great October Socialist Revolution. Systematic and in-depth study of this infection was started for human beings (P. F. Zirodovskiy) and livestock (S. N. Vyshellesskiy) as early as the 1920's. The following stage is characterized by

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USSR

VERSHILOVA, P. A., et al, "Meditsina", Moscow, 1970, 192 pp

determination of the distribution of brucellosis among animals and human beings for the nation and individual republics. Organization of the network of anti-brucellosis stations was of decisive importance in the fulfillment of this task. The attack on brucellosis that was started during these years at foci of infection and the opening up of scientific research work in specialized laboratories created the prerequisites for implementing measures for eliminating brucellosis foci. During the difficult years of the Great Patriotic War and the first postwar period, the situation with respect to brucellosis worsened considerably in this country. Brucellosis acquired great importance in livestock-breeding regions. Great efforts were required on the part of scientists and practicing veterinarians in order to seek out the most effective measures for controlling this serious disease and to prevent it from becoming widespread. Based on the achievements of science and practice, fulfillment of the task of eliminating brucellosis among livestock, primarily among cattle as the source of brucellosis most dangerous to man, became practicable. With the support of Soviet and party organs, persistent implementation of antibrucellosis measures worked out by science and practice led to considerable reduction of foci of infection and cases of brucellosis in humans, which is reflected in the materials presented. Data of investigations by domestic scientists on immunity, vaccinal

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USSR

VERSHILOVA, P. A., et al, "Meditsina", Moscow, 1970, 192 pp

immunogenesis, and vaccinal strains proposed for inoculation against brucellosis are presented as a separate section in the book. Problems of brucellosis prevention are illuminated on the basis of the considerable scientific work and practical experience of many scientists and specialists of the nation's practicing veterinary and medical service, and instructional materials that have the force of law. Creation in 1939 of a special inspectorship for brucellosis in the USSR Ministry of Health and the ministries of some Union republics had great positive significance in organizing the study and implementation of antiepidemic measures for brucellosis. The authors of the book considered it their duty to summarize years of materials on the divisions of the problem of brucellosis listed, and also to reflect the results of the work of the enormous collective of Soviet medical and veterinary service. In connection with this, we believe that the present book cannot exhaust all aspects of studying and ways of combatting brucellosis, but we hope that it will be useful to those who continue their activity in this field.

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1/2 006 UNCLASSIFIED / PROCESSING DATE--09OCT70
TITLE--INFLUENCE OF SOLUBLE NITROGEN COMPOUNDS ON THE PURIFICATION AND
SUGAR LEVEL IN MOLASSES -U-
AUTHOR-(05)-GOLUBEVA, A.D., KARTASHOV, A.K., LIMANSKAYA, A.YA., DUTSENKO,
L.D., VERCHENKO, L.M.
COUNTRY OF INFO--USSR

SOURCE--SAKH. PROM. 1970, 44(2), 27-31

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NITROGEN COMPOUND, FOOD PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0946

STEP NO--UR/0339/70/044/002/0027/0031

CIRC ACCESSION NO--AP0109103

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109103

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECREASED TECH. EFFICIENCY OF SUGAR BEET FACTORIES IN 1964-8 AS COMPARED WITH 1956-7 IS DUE TO THE POOR TECH. QUALITY OF SUGAR BEETS WHICH CONTAIN 70-5, 30-70, AND 400-600PERCENT OF THE NORMAL LEVELS OF K, P, AND N, RESP.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DRYING GRANULATED FERTILIZERS IN ROTARY DRIES -U-

AUTHOR--(04)--MAYZEL, YU.A., GOLUBEVA, A.M., YEROFEYEVA, M.V., BEYZERMAN,
L.R.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRGM. (MOSCOW) 1970, 46(2), 117-21

DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--CHEMICAL DRYING, PHOSPHORUS FERTILIZER, PARTICLE SIZE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0175

STEP NO--UR/0064/70/046/002/0117/0121

CIRC ACCESSION NO--AP0123946

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123946

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN DRYING OF GRANULATED AMMONIATED SUPERPHOSPHATE FERTILIZERS IN ROTARY DRUM DRIERS, THE PARTICLE SIZE OF THE GRANULES CAN EITHER DECREASE OR INCREASE (DEPENDING ON THE EXACT NATURE OF THE FERTILIZER, THE RAW MATERIALS USED, THE INITIAL GRAIN SIZE, ETC.) BUT IN BOTH CASES THE RELATION BETWEEN THE F_{SUB1} - F_{SUB2} RATIO (WHERE F_{SUB1} AND F_{SUB2} ARE THE INITIAL AND FINAL EQUIV. SURFACE AREAS OF THE GRANULES) AND THE THERMAL LOAD DURING DRYING IS SATISFACTORILY DESCRIBED BY A PARABOLIC (DESCENDING OR ASCENDING) CURVE. A METHOD FOR THE AUTOMATIC CONTROL OF THE DRYING PROCESS ON THE BASIS OF PARTICLE SIZE IS DESCRIBED.

UNCLASSIFIED

USSR

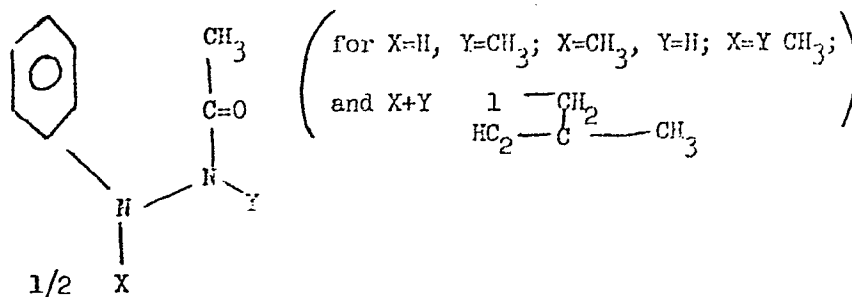
UDC 547.754.859

PORTNOV, YU. N., GOLUBEVA, G. A., KOST, A. N., and VOLKOV, V. S., Moscow State University imeni M. V. Lomonosova

"Indole Chemistry, Part 36. The Rearrangement of 1-Phenyl-2-acetylhydrazines and 1-Phenyl-2-acetylpyrazolidines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 647-652

Abstract: The rearrangement of the arylhydrazides of acetic acid is more complicated than that of the analogous 1-aryl-2-acylhydrazines to 2-amino indole. Temperature, concentration, solvents among other factors influence the yields and products. Starting materials of the form



USSR

PÖRTNOV, YU. N., et al., Khimiya Geterotsiklicheskikh Soyedineniy, 5, May 1973, pp 647-652

reacted with POCl_3 by ring closure to form a variety of indoles. The CH_3 group influenced the location of the double bond. The β -phenylhydrazindes of acetic acid, having an alkyl group on one of the nitrogen atoms reacting with POCl_3 formed the 2-aminoindole with no substitution at position 3. The analogous 1-phenyl-2-acetylpyrazolidines formed the 1,2,3,4-tetrahydropyrimido 1,2-a indoles. Structures were confirmed by IR and NMR data. Preparative procedures are given.

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USSR

UDC 547.754.07:543.422.25.
4.6

GOLUBEVA, G. A., PORTNOV, Yu. N., and KOST, A. N., Moscow State University
imeni M. V. Lomonosov, Moscow

"The Chemistry of Indole. XXXV. The Synthesis of 2-Amino-3-alkylindoles."

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 4, Apr 73, pp 511-515

Abstract: Under the action of POCl_3 , 1-aryl-2-acylhydrazines in an ether solution underwent an intramolecular rearrangement with the formation of 2-amino-3-alkylindoles, which were isolated in the form of their hydrochlorides. The reaction was found to have general applicability and made it possible to synthesize with good yields 2-aminoindoles with substituents in the amino group as well as in various positions of the indole ring. Hydrochlorides of 2-aminoindoles with $\text{R}^1=\text{R}^3=\text{Me}$; $\text{R}=\text{Br}$, $\text{R}^1=\text{R}^3=\text{Me}$; $\text{R}^1=\text{R}^2=\text{Me}$; $\text{R}^1=\text{Me}$, $\text{R}^3=\text{Et}$; $\text{R}^1=\text{Me}$, $\text{R}^3=\text{Ph}$; $\text{R}^1=\text{Ph}$, $\text{R}^3=\text{Me}$; $\text{R}^1=\text{CH}_2\text{Ph}$, $\text{R}^3=\text{Me}$; $\text{R}^1=\text{CH}_2\text{Ph}$, $\text{R}^3=\text{Et}$; $\text{R}^2=\text{Me}$, $\text{R}^3=\text{Ph}$; $\text{R}^3=\text{Ph}$ were obtained, where R , R^1 , R^2 , and R^3 is the substituent in the 5-position, 1-position, 2-amino group, and 3-position, respectively. In alkaline solutions the 3-amino-3-alkylindoles underwent spontaneous oxidation to 3-hydroxy-2-aminoindolenines or 3-hydroxy-2-iminoindolines. The constitution of the compounds synthesized was confirmed by UV, IR, and paramagnetic resonance spectroscopy and also by mass spectrometry.

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1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SILICON CONTAINING FERROCENE POLYMERS -U-

AUTHOR--(04)-VISHNYAKOVA, T.P., GOLUBEVA, I.A., SAPUNTSOVA, N.D.,
POLYAKOVA, I.P.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,444
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVERNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOSILICON COMPOUND, FERROCENE, ORGANIC SILANE, MERCURY
COMPOUND, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1756

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136996

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136996

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE POLYMERS ARE PREPD. BY
POLYCONDENSING 1,1 PRIME,BIS(HALOMERCURY)FERROCENE WITH DISUBSTITUTED
SILANES AT 20-150DEGREES. FACILITY: MOSKOVSKIY INSTITUT
NEFTEKHIMICHESKOY I GAZOVOY PROMYSHLENNOSTI IM. I. M. GUBKINA.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE ADAPTATION OF INTERSEXES TO SEX CHANGE -U-
AUTHOR--GOLUBEVA, I.V. G
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 6, PP 911-914
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--REPRODUCTIVE SYSTEM, ENDOCRINE SYSTEM, PSYCHOPHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1162 STEP NO--UR/0246/70/070/006/0911/0914
CIRC ACCESSION NO--AP0126764
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126764

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENTATION DEALS WITH PROBLEMS CONCERNING THE ESTABLISHMENT AND IF NECESSARY CHANGE OF THE SEX IN INTERSEXES. THE PERSONAL OBSERVATIONS OF THE AUTHOR ARE RELATED TO A STUDY OF 31 PATIENTS, IN WHOM DURING DIFFERENT PERIODS (FROM 1 TO 30 YEARS) THERE WAS A CHANGE OF THE CIVIL SEX IN 13 CASES FROM FEMALE TO MALE AND IN 18 CASES FROM MALE TO FEMALE. THESE PATIENTS WERE ALL WITH A CONGENITAL ADRENOGENITAL SYNDROME, DYSGENESIA OF THE TESTICULES, GENUINE HERMAPHRODITISM AND AGONADISM. IT WAS ESTABLISHED THAT A MORE LIGHT ADAPTATION TO CHANGE OF THE SEX IS IN THE PERIOD UP TO 4 YEARS AND FROM 11 TO 15. A MORE HEAVIER REACTION IS SEEN AT THE AGE OF 4-10 AND AFTER 20. THE AUTHOR REPORTS OF SOME PSYCHOLOGICAL AND BEHAVIOUR REACTIONS OF INTERSEXES PRIOR AND AFTER THE SEX CHANGE. AS A WHOLE, A MORE EASIER ADAPTATION IS SEEN IN CHANGE OF FEMALES TO MALES. THE AUTHOR THINKS THAT THE SEX CHANGE IN INTERSEXES IN RELATION TO PSYCHOLOGICAL POSSIBILITIES IS INDICATED IN ANY AGE IN CONDITIONS OF A THOROUGH PSYCHOLOGICAL PREPARATION OF THE PATIENT. FACILITY: INSTITUT EKSPERIMENTAL'NOY ENDOKRINOLOGII I KHIMII GORMONOV, AMN SSSR, MOSKVA.

UNCLASSIFIED

Acc. Nr:

AP0047252

Ref. Code:

UR 0606

PRIMARY SOURCE: Urologiya i Nefrologiya, 1970, Nr

PP 51-53

ROENTGENOLOGICAL EXAMINATION OF THE PROSTATE IN HYPOGONADISM

A. I. Bukhman, B. Sh. Kogan, I. V. Golubeva, G. I. Eryamkin

Summary

Materials of examination of 23 patients with various diseases were subjected to thorough clinico-roentgenological analysis. Male hypogonadism was present in 15 of these cases. X-ray contrast and noncontrast prostatography serves as one of the important methods of improved diagnosis of male hypogonadism. Prostatography offers a possibility of detecting the presence, the shape and the size of the prostate gland, and is of expedience in various pathological processes developing in this organ.

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REEL/FRA
19790759

DI 2

1/2 040 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--USE OF GLASS FIBER REINFORCED PLASTICS IN AIRCRAFT FOR CROP DUSTING
-U-

AUTHOR--(05)-SAKALLY, M.TS., GOLUBEVA, L.I., BALASHOV, A.YA., PLATONOVA,
V.N., TELNOV, N.T.
COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (2), 58-9

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, BIOLOGICAL AND MEDICAL SCIENCES, AERONAUTICS,
AGRICULTURE

TOPIC TAGS--CROP DUSTING, AIRCRAFT MATERIAL, GLASS FIBER, REINFORCED
PLASTIC, POLYETHYLENE, PHOSPHATE, CHEMICAL STABILITY, CONTAINER/(U)VPS7
GLASS REINFORCED PLASTIC, (U)11ED SM GLASS REINFORCED PLASTIC, (U)PN1
GLASS REINFORCED PLASTIC, (U)EF32 0301 REINFORCED PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0663

STEP NO--UR/0191/70/000/002/0058/0059

CIRC ACCESSION NO--AP0119571

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CORROSION RESISTANCE OF LOW D. POLYETHYLENE (I) AND OF SEVERAL GLASS FIBER REINFORCED PLASTICS, E.G., VPS-7, 11-ED SM, EF 32-0301, AND PN-1 WAS STUDIED TO DEVELOP A SUITABLE CONTAINER FOR BORDEAUX MIXT. AND SUPERPHOSPHATES (USED FOR CROP DUSTING AND SPRAYING). A VPS-7 CONTAINER (PRESSURE COATED WITH I) HAD SUPERIOR WEAR RESISTANCE AND CHEM. STABILITY. CONNECTING METAL TUBES AND SPRAYING HOSES WERE ALSO REPLACED BY VPS-7 REINFORCED I TUBES.

UNCLASSIFIED

USSR

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UDC 678.06-419.8:677.5217.004.14:
631.37:656.7

SAKALLY, M. TS., GOLUBEVA, L. I., BALASHOV, A. YA., PLATONOVA,
V. N., TEL'NOV, N. I.

"Utilization of Fiberglass Plastics for Agricultural Aviation
Apparatus"

Moscow, Plasticheskiye Massy, Vol 2, 1970, pp 58-59

Abstract: Because of the fact that metallic units used in air spraying of agricultural fertilizers or toxic agents are corrosive, an attempt was made to find more resistant materials. The authors experimented with fiberglass VPS-7, 11-EDSM, EF 32-301, PH-1 materials and with low density polyethylene. As a result of their work, materials were made from fiberglass VPS-7 to assure strength, and plated with low density polyethylene films to give the desired chemical resistance. In this manner reservoirs for chemical agents and the dispersing arms could be manufactured.

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Acc. Nr: **AP0047330**

Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichniy Zhurnal, 1970,
Vol 42, Nr 1, pp 86-91

PROPERTIES OF MUSCULAR ALDOLASE
OF RABBITS UNDER CONDITIONS OF FASTING

L. T. Litvinenko, M. F. Gulji, M. I. Shevchenko, L. I. Golubeva

Institute of Biochemistry, Academy of Sciences, Ukrainian SSR, Kiev

Summary

The biological properties were studied of the crystalline aldolase isolated from muscles of the rabbits fastened for a long period of time. K_m and maximum rate of the reaction as well as the effect on the enzyme activity of urea taken in low concentrations and of para-chloromercurium-benzonate (p-CMB) were determined. It is shown that pH-optima of aldolase from muscles of the normal and fastened animals coincide.

When incubating with fructose-1,6-diphosphate (FDP) in trisacetic buffer two pH-optima (6.3 and 9.1) were found for the both enzymes by the chemical method and one optimum (8.0) by the optical one.

When incubating with fructoso-1-diphosphate (F-1-P) the optima pH (8.5 and 5.6) were determined by the chemical method in the norm and under conditions of fasting.

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19790853

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AP0047330

Under optimal conditions a decrease of K_m is observed for the both substrates in aldolase of the fastened rabbits. In the presence of FDP an increase in the maximal rate of the aldolase reaction was established in the fastened rabbits, with F-1-P — a decrease.

After preincubation with urea the concentration of which was 0.5—3 M the aldolase activity of the fastened rabbits lowers sharply. The activity of aldolase in norm increases until the concentration of urea taken for preincubation does not exceed 1.5 M.

Fixation of sulphydryl groups by *p*-CMB does not provoke essential differences in the activity of aldolase of the fastened animals in comparison with norm.

The established differences in the biological properties of the muscular aldolase of the rabbits fastened for a long time is result of changes in its primary structure connected with the change in biosynthesis of this enzyme.

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Yeh

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXPERIMENTAL PROPHYLAXIS OF ACUTE CARDIAC INCOMPETENCE BY
PRELIMINARY TRAINING OF ANIMALS TO HYPOXIA OF HIGH ALTITUDE -U-
AUTHOR--(051)-MEYERSON, F.Z., MAYZELIS, M.YA., MARKOVSKAYA, G.I., GOLUBEVA,
L.O., NOVIKOVA, N.A.
COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 49-54
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, ALTITUDE CHAMBER, BIOMEDICAL CHAMBER,
VENTRICULAR HYPERTROPHY, MYOCARDIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1938/0144

STEP NO--UR/0396/70/014/002/0049/0054

CIRC ACCESSION NO--AP0105230

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0105230
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WISTAR RATS WERE TRAINED FOR 40 DAYS IN A BAROCHAMBER, 6 HOURS DAILY AT AN "ALTITUDE" OF SEVEN THOUSAND METERS. SUCH TRAINING LED TO ACTIVATION OF THE SYNTHESIS OF NUCLEIC ACIDS AND PROTEIN IN THE MYOCARDIUM OF THE LEFT, AND, PARTICULARLY, OF THE RIGHT CARDIAC VENTRICLE (WHICH SERVED AS THE BASIS OF HYPERTROPHY), AND TO INCREASE OF THE MAXIMAL POWER OF CONTRACTION OF THE VENTRICLES (OF THE LEFT, BY 18 PER CENT, AND OF THE RIGHT, BY 33 PER CENT). THIS TRAINING WAS CARRIED OUT FOR THE PURPOSE OF PREVENTION OF ACUTE CARDIAC INSUFFICIENCY PRODUCED BY OVERLOADING IN CORACTATION OF AORTA. PRELIMINARY TRAINING TO HIGH ALTITUDE HYPOXIA PROVED TO PREVENT OR TO REDUCE DISTURBANCES OF METABOLISM AND MYOCARDIAL FUNCTION WHICH USUALLY FOLLOWED INDUCTION OF AN EXPERIMENTAL DEFECT, AND CONSTITUTED THE BASIS OF CARDIAC INCOMPETENCE. FACILITY: LABORATORIYA EKSPERIMENTAL'NOY KARDIOLOGII INSTITUTA NORMAL'NOY I PATOLOGICHESKOY FIZIOLOGII AMN SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 616.12-035.46-092.9-034

MEYERSON, F. Z., MAYSELES, M. YA., MARKOVSKAYA, G. I., GOLUBOVA, L. O., and NOVIKOVA, N. A., Laboratory of Experimental Pathology, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR

"Experimental Prophylaxis of Acute Cardiac Insufficiency by Preliminary Conditioning of Animals to High-Altitude Hypoxia"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, 1970, pp 49-54

Abstract: A total of forty days of conditioning on 12-hour, 10-hour hypoxia (6 hours daily at a simulated altitude of 7000 m) intensified the synthesis of nuclear acids and proteins in the myocardium of the left and right ventricles (especially the latter), and increased the maximum force of ventricular contractions. Cardiac insufficiency induced by coarctation of the aorta resulted in marked edema of the subcutaneous fatty tissue of the neck and chest in untrained rats, but did not have this effect in trained animals. Cardiac insufficiency also produced metabolic disturbances and decreased myocardial contractility in untrained animals. In the

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MEYERSON, N. E., et al., Moscow, Patologicheskaya i Fiziologicheskaya i
Eksperimental'naya Terapiya, No 2, 1970, pp 45-48

trained animals. However, these changes were maintained or present
only in a mild form. The reasons for the high degree of resistance
to acute cardiac insufficiency created by preliminary conditioning
to hypoxia are discussed.

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USSR

UDC 669-138+621.79

BOROK, B. A., SHCHEGOLEVA, R. P., GOLUBEVA, I. S., OSTROVSKAYA, E. N.,
CHIKUNOV, M. I., and KUNIS, M. I., Central Scientific Research Institute of
Ferrous Metallurgy imeni I. P. Bardin

"Production Technology of Nickel-Base Brazing Alloys in Powder Form"

Kiev, Poroshkovaya metallurgiya, No 2, May 72, pp 82-88

Abstract: The objective of the study was to develop an optimum production technology for Ni-base alloys in powder form for brazing structures from thin-sheet high-alloy steels. The test materials were powders of PKh12N75S8R-grade Ni-Cr-Si-Fe-B brazing alloy and 6MA--a mixture of 85% of PKh12N75S8R with 15% molybdenum. PKh12N75S8R was successfully used to braze OKh18N10, 1Kh18NT, and Kh25N16G7AR high-alloy steels. The brazing temperature was 1180°C and the secondary melting (unsoldering) temperature--1080°C. Addition of molybdenum (15%) to Kh25N16G75S8R was found to raise the unsoldering temperature by 130°C and ensure a joint tensile strength of 30 kg/mm². (1 illustration, 7 tables, 6 bibliographic references)

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USSR

UDC 669.15.018.8

GOLUBEVA, L. S., TUFANOV, D. G., SHCHEGOLEVA, R. P., and RUCH'YEVA, N. A.

"Corrosion Testing of Cermet Stainless Steels"

Sb. tr. Tsentr. n.-i. in-ta chern. metallurgii (Collection of Works of the Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp 72, pp 128-135 (from RZh-Metallurgiya, No 6, Jun 70, Abstract No 6 I636)

Translation: Kh18Ni5, Kh22Ni5, Kh23Ni8, Kh23Ni28, Kh30 and 1Kh17Ni2 cermet deformed stainless steels as regards corrosion resistance in boiling nitric acid (25 and 56-58%), are not inferior to steels of the same composition, produced by melting and forming. 1Kh17Ni2 deformed martensitic-ferritic steel with a two-phase structure ($\alpha + \gamma$), in comparison with Kh18Ni5, Kh23Ni28, etc. austenitic steels and Kh30 ferritic steel, which possess a single phase structure (γ or α), has a considerably lower corrosion resistance. The porosity has a negative effect on the corrosion resistance. Kh18Ni5 steel's corrosion rate in 25% boiling HNO_3 increases twofold for specimens with 4.4% pores, and 2% for specimens with 2.7% pores, in comparison with compact steel. Such a drastic difference is determined by the change in the nature of porosity -- in specimens with 2.7% pores, only closed porosity is observed. Structural members from sintered stainless steel, designed for work in aggressive media, should have a porosity $\leq 3\%$

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USSR

UDC 669.15.018.8

GOLUBEVA, L. S., TUFANOV, D. G., SHCHEGOLEVA, R. P., and RUCH'YEVA, N. A.

"Corrosion Testing of Cermet Stainless Steels"

Sb. tr. Tsentr. n.-i. in-ta chern. metallurgii (Collection of Works of the Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp 72, pp 128-135
(from RZh-Metallurgiya, No 6, Jun 70, Abstract No 6 I636)

Translation: Kh18N15, Kh22N15, Kh23N18, Kh23N28, Kh30 and 1Kh17N2 cermet deformed stainless steels as regards corrosion resistance in boiling nitric acid [25 and 56-58%), are not inferior to steels of the same composition, produced by melting and forming. 1Kh17N2 deformed martensitic-ferritic steel with a two-phase structure ($\alpha + \gamma$), in comparison with Kh18N15, Kh23N28, etc. austenitic steels and Kh30 ferritic steel, which possess a single phase structure (γ or α), has a considerably lower corrosion resistance. The porosity has a negative effect on the corrosion resistance. Kh18N15 steel's corrosion rate in 25% boiling HNO_3 increases twofold for specimens with 4.4% pores, and 2% for specimens with 2.7% pores, in comparison with compact steel. Such a drastic difference is determined by the change in the nature of porosity -- in specimens with 2.7% pores, only closed porosity is observed. Structural members from sintered stainless steel, designed for work in aggressive media, should have a porosity $\leq 3\%$

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Physiology

USSR

UDC: 611.12.577.1.591.105

MEYERSON, F. L., GOLUBEVA, L. Yu., Institute of Normal and Pathological Physiology, Academy of Medical Sciences of the USSR, Moscow

"Influence of Preliminary Adaptation to Basic Environmental Factors on the Concentration of ATP and the Phosphorylation Potential in the Myocardium During Acute Overloading of the Heart"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 4, 1973, pp 989-992

Abstract: Previous studies have shown that in the process of gradual adaptation to physical loads, high-altitude hypoxia and cold, the cells of the systems responsible for the adaptation, and in particular the heart cells, display activation of synthesis of nucleic acids and proteins, leading to an increase in the power of the system of mitochondria per unit of tissue mass. This restores the concentration of ATP and the phosphorylation potential to the normal level, and thus comprises a common fundamental link in the mechanism of adaptation to basic environmental factors. If this concept is valid, then preliminary adaptation to environmental factors should to a considerable extent prevent the effect which a drop in ATP concentration has on the increase of phosphorylation potential in cells under maximum work

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USSR

MEYERSON, F. L., GOLUBEVA, L. Yu., Doklady Akademii Nauk SSSR, Vol 210, No 4, 1973, pp 989-992

intensity. In order to determine whether this preventive effect really exists, the authors studied the influence which preliminary adaptation to physical stresses and high-altitude hypoxia has on the concentration of ATP, phosphorylation potential, and the concentration of glycogen and lactate in the myocardium during acute overloading of the heart causing complete collapse of the aorta. The results of experiments showed that this effect does indeed take place. An analysis of these results and data of various other authors indicates that an increase in phosphorylation potential is a signal which activates the genetic apparatus of the cell and induces the development of structural changes which form the basis of long-term adaptation.

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USSR

UDC 571.15.041

MEYERSON, F. Z., PANCHENKO, L. F., GOLUBEVA, L. Yu., LYUBIMTSEVA, O. N.,
and PORTENKO, N. G., Institute of Normal and Pathological Physiology,
Academy of Medical Sciences USSR, and Second Moscow Medical Institute
imeni N. I. Pirogov, Moscow

"Activity of Lysosome Enzymes of the Myocardium on Adaptation to High-
Altitude Hypoxia and in Heart Injuries"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970, pp 499-502

Abstract: Acute hypoxia causes labilization of lysosomes of the myocardium. It is assumed that the prophylactic effect in heart lesions of adaptation to high-altitude hypoxia involves an increase in the resistance of the lysosome system, together with an increased capacity to retain acid hydrolases in a latent state, so that these enzymes do not damage the tissue. To check the correctness of this assumption, the effects of adaptation to high-altitude hypoxia on the content of free and bound acid DNA-ase, acid RNA-ase and acid phosphatase in the myocardium were studied on rats without heart lesions, with heart hyperfunction produced by experimental coarctation of the aorta, and with sympathomimetic injury of the heart produced by administration of novodrine (isoproterenol) in a dose that produces necrotic

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USSR

MEYERSON, F. Z., et al, Doklady Akademii Nauk SSSR, Vol 195, No 2, 1970,
pp 499-502

lesions. The rats were maintained for 6 hours per day over a period of 40 days at a pressure corresponding to an altitude of 6,000 m (the pressure was gradually reduced during the first week and then kept at this level). For rats without heart lesions, adaptation to high altitude hypoxia in this manner increased the total content of each of the three enzymes in the myocardium by 1/4-1/3 above that in controls. The content of the free enzyme fractions decreased by 20-30%, while that of the bound enzymes increased by a factor of approximately 2.5. Hyperfunction of the heart resulted in a decrease of the total content of all three enzymes, both when it was induced in rats after adaptation to high-altitude hypoxia and in rats that had not adapted. The decrease was lower for adapted than for unadapted rats, amounting to 35 vs. 47, 0 vs. 34, and 37 vs. 64% for acid DNA-ase, RNA-ase, and phosphatase, respectively. The smaller drop in the total content of lysosome enzymes in adapted animals was due to the fact that the content of the bound fraction was relatively greater. Similar relationships were found for rats in which heart lesions were produced by administration of isoproterenol (novodrine).

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Acc. Nr.

AP0048857

Abstracting Service
CHEMICAL ABST.

3-78

Ref. Code
2 R 0459

90918u Viscometric and electron-microscopic studies of the polypyromellitimide of anilinephthalein. Korschak, V. V.; Pavlova, S. A.; Boiko, L. V.; Babchinitser, T. M.; Vinogradova, S. V.; Vygodskii, Ya. S.; Golubeva, N. G. (Inst. Elementorg. Soedin., Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 56-62 (Russ.). The hydrodynamic properties of the title polymer (I) (prepd. from pyromellitic dianhydride and aniline-phthalein by a high temp. polycyclization in PhNO_2 or by a 2-stage procedure) were studied. Viscosity and mol. wt. measurements indicated that the reaction conditions had no effect on the structure of I. The intrinsic viscosity of I was proportional to the mol. wt. (2000-160,000). The rigid I macromols. had a linear structure and were present in soln. as assocd. globules. The dimensions of the globules (as measured by electron microscopy) were similar to those calcd. from viscometric data using the P. Debye-A. M. Bueche equation (1948). CKJR

REEL/FRAME

19800624

USSR

UDC 535.37

GOLUBEVA, N. P. and FOK, M. V.

"The Role of Oxygen in the Luminescence of Unactivated ZnS"

Minsk, Zhurnal Prikladnoy Spektroskopii, November 1973, pp 851-857

Abstract: This paper is the continuation of an earlier article by the authors named above and published in the same journal (17, 1972, p 261). In the earlier article, it was shown that in calcined and uncontaminated ZnS oxygen exists almost constantly as a result of the thermodynamics of the ZnS-ZnO system. The purpose of the present paper is to investigate the ultraviolet luminescence of ZnS and its connection with the oxygen. The authors find two-layered luminophores with an oxidized layer formed on a surface of ZnS crystals convenient for studying the role of ZnS oxidation in luminescence. In these experiments the luminescence spectra were measured by cathode excitation at 77°K, with the luminophores excited by a motionless beam with an accelerating voltage of 6 and 21 keV and the depth of penetration of the electrons amounting to 0.15 and 1.8 μ respectively. Curves of the spectra are given as functions of the degree of oxidation, and there is a table of luminescence intensity values for $i/2$

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USSR

GOLUBEVA, N. P. and FOK, M. V., Zhurnal Prikladnoy Spektroskopii, November 1973, pp 851-857

various penetration depths of the exciting electrons. The authors find that oxygen plays a multiple role in the ZnS luminescence phenomenon. They express their gratitude to N. A. Gorbacheva for preparing the ZnS monocrystals, to A. A. Cherepnev for discussing the results, and to G. I. Vorob'yev and G. T. Kudel'kin for their assistance with the experimentation.

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USSR

UDC 632.95

BLIZNYUK, N. K., KOLOMIYETS, A. F., GOLUBEVA, R. N., GRANIN, Ye. F.,
FADEYEV, Yu. N., VRUBLEVSKAYA, L. S., VARSHAVSKIY, S. L., KOFMAN, L. P.,
VIKHANSKIY, K. N.

"A Method of Making Derivatives of Aryl Esters of β -Isothiuronium
Ethanesulfonic Acid"

USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72
(from RZh-Khimiya, No 9, May 73, abstract No 9N522P by T. G. Chekareva)

Translation: Compounds of the general formula $RO_3SC_2H_4SC(NH_2)=NH\cdot HA$ (I)
(R = aryl unsubstituted or substituted by Cl, NO_2 , Me; A = Cl or an organic
acid radical) are synthesized by reacting $CH_2=CHSO_3R$ (II) with salts of
thiourea or a mixture of thiourea with inorganic or organic acids. Example.
Solutions of equimolar quantities of II and thiourea hydrochloride in
butanol which are saturated at 60-90°C are heated at 80-90°C for 1 hour,
cooled, and filtered, giving I with a yield of 85-96%. Evaporation of
the mother liquor gives an additional quantity of I. The overall yield of
I is 95-100%. The following compounds of type I (A = Cl) are synthesized
(given are R and the melting point in °C): Ph, 165-6; 4-ClC₆H₄ (Ia),
1/2

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USSR

BLIZNYUK, N. K., et al., USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72

144-6; 3-ClC₆H₄, 168-70; 2,4-Cl₂C₆H₃, 157-9; 2,4,5-Cl₃C₆H₂, 178-80; 2,4,6-Cl₃C₆H₂, 184 (decomp.); 4-NO₂C₆H₄, 155-8; 3-MeC₆H₄, 160-2. Saturated aqueous solutions of equimolar quantities of Ia and 2,4-Cl₂C₆H₃OCH₂COONa are mixed at 90-100°C, cooled, and filtered, giving compound I (A = 2,4-Cl₂C₆H₃OCH₂COO-, R = 4-ClC₆H₄), melting point 134-5°C, yield 99.5%. in concentrations of 3.1-25 mg per liter compound I suppresses the growth of the mycelium Botritis cinerea and Piricularia orysae by 50-100%; in concentrations of 0.25-1 mg per liter, compound I suppresses the growth of spores of Botritis cinerea and Piricularia orysae by 8-100%, and in a concentration of 0.1% the chemical suppresses rust of the wheat strain Puccinia graminis f. tritici by 42-58%.

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USSR

UDC 612.85:598.2

IL'YICHEV, V. D., GOLUBEVA, T. B., ANISIMOV, Ye. Ye.

"Electrophysiological Characteristics of the Acoustic Analysor of Birds. II. Medulary Acoustic Nuclei and the Cochlea"

Moscow, Biologicheskiye Nauki, Vol 13, No 7, 1970, pp 31-43

Abstract: A review is presented of studies conducted by many authors on the various potentials and characteristics of the acoustic apparatus. It is suggested that, in order to develop adequate research methods, the work of histologists and electrophysiologists should be unified.

Entered 27/XII 1968

Chair of Vertebrate Zoology, Moscow State University im. M. V. Lomonosov

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USSR

UDC 598.972.591.185.5

IL'ICHEV, V. D., VORONETSKIY, V. S., and GOLUBEVA, T. B., Moscow State University

"Sound Environment of the Long-Eared Owl and Spectral Sensitivity of Its Acoustic Nerve"

Moscow, Zoologicheskii Zhurnal, Vol 50, No 9, 1971, pp 1,358-1,368

Abstract: The sound environment of the long-eared owl consists of three components of unequal significance. The most important are the sounds emitted by objects of prey (squeaks and ruslts of rodents), cries of nestlings and fledglings, and nuptial voices of adult owls. In order to perceive and locate these sounds, the owl's hearing must be very acute and highly discriminatory. Sounds of emergency, alarm, aggression, and other signals of communication, although also important, are easily perceptible. Sounds produced by trees, other plants, and nonbiological objects are of much lesser significance. The duration of biologically significant sounds is 0.05-0.90 sec, and the total frequency spectrum they cover ranges from 0.5 to 11.0 Khz. In the voices of adult owls, nestlings, and especially fledglings, the whole spectrum is broken into four to six frequency components separated by approximately equal intervals, due to which the voices have a harmonious quality. The

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IL'ICHEV, V. D., et al., Zoologicheskii Zhurnal, Vol 50, No 9, 1971,
pp 1,358-1,368

width of each component is 0.3-0.5 Khz in nestlings, 0.3-0.8 in fledglings, and 0.1-0.6 in adults, with intervals of 1.3-1.8, 0.8-2.0 and 0.2-0.5 Khz respectively. The voices of adult owls are spread over a narrower sound range than those of nestlings and fledglings. Records of action potentials from the auditory nerves have revealed that the cochlear receptors are most sensitive to sounds of 4-7 Khz. Those are the frequencies in which the owl is specialized to the highest degree (sounds emitted by rodents and fledglings). However, the spectra of all the biologically important sounds which have been investigated coincide with the owl's acute hearing range which includes frequencies up to 11 Khz.

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USSR

UDC 591.185.5:577.37:598.97+612.819.8.014.423.019

~~GOLUBEVA, T. B.~~, CHERNYI, A. G., and IL'YICHEV, V. D., Soil Biology Faculty,
Moscow University imeni M. V. Lomonosov

"Total Responses of the Auditory Nerve in Relation to Parameters of Acoustic
Signals in the Owls *Asio otus* and *Athene noctua*"

Leningrad, Zhurnal Evolyutsionnoy Biokhimii i Fiziologii, Vol 6, No 2, Mar/Apr
70, pp 215-224

Abstract: The relationship of total responses of the auditory nerve to the frequency, intensity, duration, and sharpness of increase of sound signals, and also to the length of the interval between paired signals, was studied in the owls *Asio otus* and *Athene noctua*. To determine the response, the potential of the cochlea was measured bilaterally by means of permanently implanted electrodes. A maximum of sensitivity was found at 4-5 and 3-4 kc for *Asio otus* and *Athene noctua*, respectively, which corresponded to that established in studies of bird behavior, and was close to the frequency range of noises emitted by rodent prey. These noises are used by the owls to locate their prey (the source of high-frequency sound can be located more precisely than the source of sounds of lower frequencies). Characteristics of the sensitivity of hearing in owls with respect to frequency were related to morphological differences in their auditory systems,
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USSR

GOLUBEVA, T. B., et al, Zhurnal Evolyutsionnoy Biokhimii i Fiziologii, Vol 6, No 2, Mar/Apr 70, pp 215-224

and to their mode of life. Use of signals in the optimum, rather than non-optimum, sensitivity range of frequencies affected significantly the effects of the intensity and sharpness of increase in sound signals on the response. The cycles of restoration of the first component of the nerve response in paired signals were shorter in owls than in chickens, but longer than in cats. Owls occupied an intermediate place between mammals and other birds in this respect.

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USSR

UDC 632.95

PYATKOVA, YU. B., GOLUBEVA, Y. A., GOLYSHIN, N. M., UKRAINETZ, N. S.,
ABELENTSEV, V. I., FEDOSENKO, L. G., VISHKEVSKAYA, A. M., PUSTOVOTTOVA, V. I.,
and DVUKHSHERSTOV, M. G.

"Editone"

Khim. sredstva zashchity rast. (Chemical Means of Protecting Plants --
collection of works), Issue 1-M, 1970, pp 129-134 (Referativnyy Zhurnal --
Khimiya, No 10, (II), 1972, Abstract No 10H550 by T. A. Belyayeva)

Translation: Investigation of editone -- 3,3'-ethylene-bis-4,6-dimethyl-
tetrahydro-1,3,5-thiadiazin-2-one (I) -- in laboratory conditions in vitro
showed that I is equivalent in fungicidal property to Phygon and offers no
threat to green plants. The effectiveness of I in countering apple scab,
grapevine mildew, cherry-plum Clasterosporium, monilial blight, grey mold
of cherry tress, and Macrosporium in tomatoes is equal to or exceeds the
effectiveness of zineb and copper oxychloride (concentration 0.25-0.125%)
and of Bordeaux mixture in 1% concentration. I is not effective in combatting
powdery mildew.

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USSR

UDC 632.95

KHANMANOV, T. M., PATKULLINA, N. S., KULAKOV, V. N., LOZHEN', I. F.,
GOLUBEVA, V. A., and TROPIN, I. V.

"Synthesis of α -(Dimethylnaphthyl)-methylcarbamates From Petroleum Raw Material"

Tr. NII neftekhim. proiz-va (Works of the Scientific Research Institute of the Petrochemical Industry), 1970, vyp. 2, pp 84-86 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N533)

Translation: The starting material used for synthesis of alpha-dimethylnaphthyl methylcarbamates is 2,6-dimethylnaphthalene and dimethylnaphthalene concentrate prepared from a narrow light gas-oil fraction by catalytic cracking and sulfonated with H_2SO_4 or chlorosulfonic acid. The resultant sodium sulfonates are subjected to alkaline fusion with excess KOH at 280-310°C. Dimethyl-alpha-naphthols are converted by a conventional method to the corresponding methylcarbamates: α -2,6-dimethylnaphthyl methylcarbamate, boiling point -- 134-6°C; α -dimethylnaphthyl methylcarbamate, boiling point -- 158-60°C/1-4. Preliminary tests of both specimens showed that they are close to Sevin in their biological activity.

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USSR

UDC: 621.373.52

GOLUBEVA, V. A., DANIL'CHENKO, V. P., MASLOV, D. V., SHAKHMEYSTER, L. Ye.

"A Very Low Frequency Square Pulse Generator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268485, filed 25 Mar 68, p 37

Abstract: This author's certificate introduces a very low frequency square pulse generator which consists of a flip-flop with current-delaying circuits and an electrochemical cell connected in the load diagonal, and two threshold amplifiers. As a distinguishing feature of the patent, the operating reliability of the generator is improved and the range of controllable frequencies is extended by connecting thyristors in the collector circuits of the flip-flop transistors through transformer windings connected in opposition. One of these thyristors is shunted by an element which makes the circuit asymmetric.

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1/2 005 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INVESTIGATION OF FEYNMAN INTEGRAL BY HOMOLOGICAL METHODS -U-
AUTHOR--GOLUBEVA, V.A.
COUNTRY OF INFO--USSR
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 3, PP
405-419
DATE PUBLISHED-----70
SUBJECT AREAS--MATHEMATICAL SCIENCES
TOPIC TAGS--INTEGRAL FUNCTION, SPHERIC GEOMETRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1344 STEP NO--UR/0646/70/003/003/0405/0419
CIRC ACCESSION NO--AP0124994
UNCLASSIFIED

2/2 005

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0124994

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HOMOLOGICAL METHODS ARE APPLIED TO THE STUDY OF ANALYTICAL PROPERTIES OF AN INTEGRAL OVER L SPHERE $\bar{\Sigma}$ OF A CLOSED MEROMORPHIC L FORM Ω ON THE COMPLEX QUADRIC OF WHICH Γ IS A REAL SECTION. L FORM Ω POSSESSES M POLES ON M HYPERPLANES. WE CONSIDER THE CASE M EQUALS L PLUS 1, L PLUS 2. THE CASE M SMALLER THAN OR EQUAL TO L WAS CONSIDERED BY BOYLING. THE PICARD LEFSHETZ THEOREM IS APPLIED TO OBTAINING THE DISCONTINUITIES ACROSS THE LANDAU'S VARIETY. THE REPRESENTATION OF (FORMULAS SHOWN ON MICROFICHE) IS INVESTIGATED. FACILITY: MATEMATICHESKIY INSTITUT. FACILITY: IMENI V. A. STEKLOVA AKADEMII NAUK SSSR.

UNCLASSIFIED

AA0044787 - Golubeva, V. A UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243008 INFRA-LOW FREQUENCY PULSE GENERATOR for
shaping rectangular pulses, containing a
trigger, an electro-chemical element, two current
stabilisers and two threshold amplifiers (transistors).
To simplify the circuitry and reduce the number of
components required, the following method of connection
is adopted:

The base of each of the two transistors
forming the trigger is connected to the collector
of the other transistor in the trigger via the
collector-base junction of the amplifier transistor,
the collector-emitter junction of the current
stabiliser transistor and the resistor of the
current stabiliser, these last three being in
series. Parallel to the emitter-base junction of

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AA0044787

one threshold amplifier transistor are connected the base emitter junction of the other threshold amplifier transistor and the electro-chemical element. The bases of the current stabiliser transistors are inter-connected via a ballast resistor while their collectors are inter-connected by the electro-chemical element.

18.3.68 as 1227250/18-24.V.A.GOLUBEVA et alia.
(24.9.69.) Bul 16/5.5.69. Class 21c, 46/50, 21a¹,
36/02. Int.Cl.G 05f, H 03k.

AUTHORS:

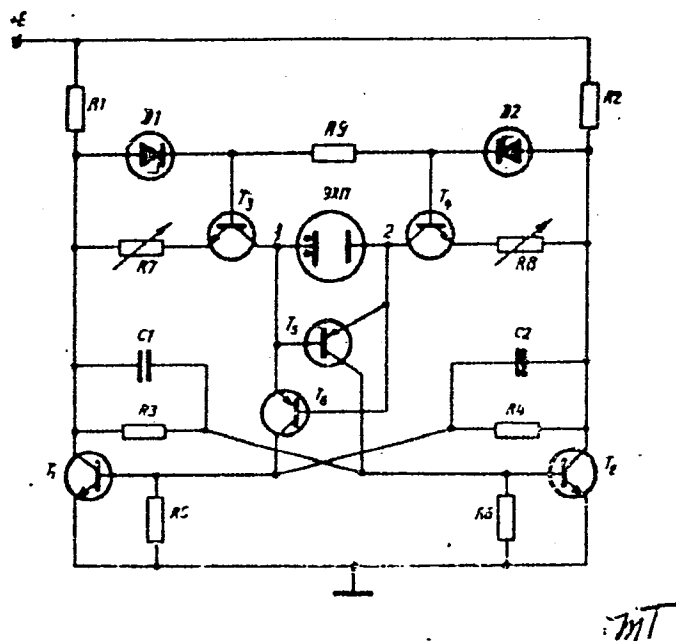
243008

Golubeva, V. A.; Danil'chenko, V. P.; Maslov, D.V.;
Shakhmeyster, L. Ye.

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19771604

AA0044787



19771605

USSR

UDC 615.387.073.916

OLDUROVA, S. V., and GOLUBEVA, V. I., Laboratory of Blood Conservation of the Central Institute of Hematology and Blood Transfusion of the Ministry of Health USSR, Moscow

"Investigation of the Acclimatization of Erythrocytes of Blood Preserved by the TsOLIPK 12A Formula (Cr⁵¹ Label)"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 16, No 8, 1971, pp 7-11

Abstract: Post-transfusion viability of erythrocytes was determined by the isotope method, with the erythrocytes labeled with Cr⁵¹ as a tracer, in order to reveal more fully the characteristics of blood stabilized in TsOLIPK 12A solution. Because the blood is intended primarily for extracorporeal circulation, the viability of its erythrocytes after 5 days in storage was investigated. A special glucose-phosphate preserving solution with citric acid was used to prepare the blood. Twenty-four hours following the transfusion the acclimatized erythrocytes of the blood amounted to 91.6 percent, demonstrating that a 5-day storage period had no significant effect on their viability. An increase of latent hemolysis up to 0.6% of total blood hemolysis and an increase in the number of osmotically fragile erythrocytes were observed on the 15th day of storage of the experimental blood. One day after transfusion

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" 57 "

USSR

OLDUROVA, S. V., and GOLUBEVA, V. L., Problemy Gematologii i Perelivaniya Krovi, Vol 16, No 8, 1971, pp 7-11

87.3% of the erythrocytes of such blood survived. After 19-21 days of keeping the blood in storage, the erythrocytes become somewhat less stable, some being destroyed as early as in the first 24 hours following transfusion. Results of the studies demonstrate that erythrocytes of blood prepared with glucose-phosphate solutions have a longer survival period than do erythrocytes of glucose-citrate blood after a similar length in storage. Thus, blood preserved by the TsOLIPK 12A formula is perfectly good after 5 days in storage from the point of view of erythrocyte viability for use in extra-corporeal circulation.

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Entomology

USSR

UDC 576.895.771.095.18:615.285.7

GOLUBEVA, Z. Z., and FOMINA, N. I., All Union Scientific Research Institute of Chemical Means of Plant Protection, Moscow

"Toxicity of Methylnitrophos for Larvae of the Mosquito *Culex pipiens molestus*"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyy Bolezni, Vol 39, No 6, 1970, pp 708-712

Abstract: Methylnitrophos, synthesized at the All Union Scientific Research Institute of Chemical Means of Plant Protection, is a mixture of two isomers - 0,0-dimethyl-3-(3-methyl-di-nitrophenyl)thiophosphate and 0,0-dimethyl-0-(3-methyl-6-nitrophenyl)thiophosphate in the ratio of 2:1. Laboratory tests showed that it is no less toxic for *Culex pipiens molestus* larvae than DDT. No synergistic effect was noted when the ratio of the two isomers was altered, although the 1:1 ratio was the most potent. Methylnitrophos has comparatively low toxicity for warm-blooded animals.

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USSR

UDC 632.951

GOLUBEVA, Z. Z. SHAPOVALOVA, G. K., and POPOV, P. V., All-Union Scientific Research Institute of Chemical Means for Plant Protection

"Combined Use of Acaricides and Insecticides"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 12, 1972, pp 33-34

Abstract: Some mixtures of an insecticide with an acaricide were found to exert a greater effect on pests than that corresponding to addition of the two activities. Furthermore, development of resistance of the pests to the chemical agents may be slowed down if mixtures of this type are used. To study the combined toxic action on pests of binary mixtures of insecticides with acaricides, acrex (I), amiphos (II), anthio (III), benzophosphate (IV), galekron (V), kelthane (VI), milbex (VII), neoron (VIII), sevin (IX), phthalophos (X), and chlorophos (XI) were used. I, V, VI, VII, and VIII were selectively acting acaricides that were practically devoid of insecticidal activity. 1:1 mixtures of the pesticides were used in tests. The insecticidal activity was determined in experiments with gypsy moth (*Porthetria dispar* L.) larvae of the second instar and adult house flies and the acaricidal activity in experiments with adult *Tetranychus urticae* Koch mites. The values of LD_{50} of individual pesticides and the coefficients of combined action (CCA) of the binary mixtures towards the three pests were determined (cf. Popov, *Khimiya v Sel'skom Khozyaystve*, No 8, 73, 1965). Potentiation was indicated by CCA values > 1 and $1/2$

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GOLUBEVA, Z. Z., et al., Khimiya v Sel'skom Khozyaystve, Vol 10, No 12, 1972, pp 33-34

antagonism of the two ingredients of mixtures by CCA values < 1 . In the first approximation, almost all of the mixtures produced an effect that was at least additive. The highest levels of potentiation were exhibited by X + V (CCA 3.6), XI + V (CCA 3.3) and XI + VIII (CCA 2.6) in experiments with gypsy moth larvae and by XI + V (CCA 4.4) and XI + XII (CCA 2.3) in experiments with *T. urticae* mites. IX + I, IX + VI, and IX + VII, and CCA values of which were in the 0.5-0.7 range for both insecticidal and acaricidal activity, should not be used unless these values can be revised in the future on the basis of more precise LD₅₀ indices (determinations in the CCA range of 0.5-2.0 were somewhat uncertain because of fluctuations in the LD₅₀ values).

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USSR

UDC 632.95

GOLUBEVA, Z. E., FOMINA, N. I., and STRIZHIKOVA, M. A.

"Insecticidal Properties and Effectiveness of Methylnitrophos"

V sb. Khim sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 17-25 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N395)

Translation: A survey of the published results of tests of methylnitrophos (I) done in the Soviet Union. As a contact insecticide, I is effective against many insects living in the open which are harmful to agricultural crops. The rate of use of a 30% concentrate of emulsions of I is equal to 2-3 kg per hectare, depending on the crop. Residues of I have comparatively low persistence on plant leaves. Compound I is authorized for use in the Soviet Union. The last deadline for spraying fruit, vineyards, and vegetable, field and commercial crops is twenty days or more before harvest.

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USSR

UDC 632.951

GOLUBEYEVA, T. A., Academy of Communal Economy Imeni K. D. Pamfilov

"Effectiveness of Insecticides Against Pests of Lawn Grass Seeds"

Moscow, Khimiya v Sel'skom Khozyaistve, No 4, 1973, p 44

Abstract: It has been shown that chlorophos (0.2%), carbophos (0.2%), metaphos (0.1 and 0.2%) and phosphamide destroyed 80-96% of Leptopterna dolabrota L. and Aelia acuminata L. bugs. Phosphamide proved to have the most long-lasting activity. All of these materials, however, were inactive against rusty thrips larvae.

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USSR

GOLUBINSKIY, A. I., Moscow

"Singular Stream Surfaces in Conical Gas Flows"

Moscow, Prikladnaya Matematika i Mekhanika, Vol 34, No 6, Nov/Dec 70,
pp 1058-1066

Abstract: The author considers the field of a conical flow of ideal perfect gas in the neighborhood of conical stream surfaces, and shows that in addition to the ordinary (regular) stream surfaces, which are surfaces of constant entropy (isentropes), there may also be singular stream surfaces on which entropy distribution is variable. These singular surfaces are the envelopes of isentropes of the flow field, and may be continuously joined to the regular stream surfaces without disrupting the continuity of flow distribution either in the neighborhood of the singular surface or in the neighborhood of the joining. The results indicate the existence of asymmetric flow around conical bodies with continuous and unique distribution of gas-dynamic parameters in the flow field without any singular points. The author thanks A. A. Dorodnitsyn, V. Ya. Neyland, V. V. Sychev and A. S. Fonarev for discussing the results and for constructive criticism.

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USSR

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GOLUBINSKIY, A. I. and KOGAN, M. N., Moscow

"On a Nonstationary Pressure Pulse Acting on a Body in a Liquid or Gas"

Moscow, Mekhanika Zhidkosti i Gaza, No. 1, 1970, pp 113-120

Abstract: It is shown that it is possible within the framework of linear theory to avoid a detailed calculation of the nonstationary flow picture, thus reducing a determination of impulses to a problem with a smaller number of dimensions. It is noted that the difficulties in solving differential equations rise sharply as the number of independent variables increases, thus making the solution of nonstationary problems considerably more complex than the corresponding stationary problems. It is sometimes possible in calculations of strength or dynamic calculations to restrict oneself to a knowledge of the total pulses, pressures, forces, or moments over a period or over the entire period of the nonstationary process, and not at each point in time. A flow with unperturbed parameters $(U, -0, 0)$, ρ_∞ , p_∞ at infinity around a body or a group of bodies is considered. It is assumed that the angle of the surface of the body to the flow and the rates of displacements or deformations of the surface are small so that the flow may be considered weakly perturbed and

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USSR

GOLUBINSKIY, A. I. and KOGAN, M. N., Mekhanika Zhidkosti i Gaza, No. 1, 1967, pp 113-120

satisfying the linearized equations of gas dynamics

$$\begin{aligned} \frac{\partial \rho}{\partial t} + U \frac{\partial \rho}{\partial x} + \rho_{\infty} \left(\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} + \frac{\partial w}{\partial z} \right) &= 0 \\ \frac{\partial u}{\partial t} + U \frac{\partial u}{\partial x} + \frac{1}{\rho_{\infty}} \frac{\partial p}{\partial x} &= 0, \quad \frac{\partial v}{\partial t} + U \frac{\partial v}{\partial x} + \frac{1}{\rho_{\infty}} \frac{\partial p}{\partial y} = 0 \\ \frac{\partial w}{\partial t} + U \frac{\partial w}{\partial x} + \frac{1}{\rho_{\infty}} \frac{\partial p}{\partial z} &= 0 \\ \frac{\partial}{\partial t} (p - a_{\infty}^2 \rho) + U \frac{\partial}{\partial x} (p - a_{\infty}^2 \rho) &= 0 \quad \left(a_{\infty}^2 = \frac{\kappa p_{\infty}}{\rho_{\infty}} \right); \end{aligned}$$

where u, v, w are the perturbed component of the velocity, and p and ρ are the perturbed pressure and density. The Mach number is either sub- or supersonic.

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USSR

GOLUBINSKIY, A. I. and KOGAN, M. N., Mekhanika Zhidkosti i Gaza, No. 1, 1967, pp 113-120

These equations are integrated over time from 0 to ∞ . It is shown that a pulse of pressure perturbations at an arbitrary point of the body produced by perturbations in the boundary conditions or conditions in the incident flow is numerically equal to a stationary pressure at the corresponding points of the body.

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1/2 044 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NONSTATIONARY PRESSURE PULSE ACTING ON A BODY IN A LIQUID OR A GAS
-U-
AUTHOR-(02)-GOLUBINSKIY, A.I., KOGAN, M.N.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK SSSR, IZVESTIYA, MEKHANIKA ZHIDKOSTI I GAZA,
JAN.-FEB. 1970.
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PLASMA PHYSICS, PLASMA FLOW, GAS DYNAMICS, FLOW STABILITY
EQUATION, LINEAR EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1452

STEP NO--UR/0421/70/000/000/0114/0114

CIRC ACCESSION NO--AP0112446

UNCLASSIFIED

2/2 044

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112446

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF A FLOW WITH UNPERTURBED PARAMETERS AT INFINITY, UNDER THE ASSUMPTION THAT THE ANGLE BETWEEN THE SURFACE OF THE BODY AND THE FLOW AND THE DISPLACEMENT OR STRAIN RATES OF THE SURFACE ARE SMALL ENOUGH TO ASSUME THAT THE FLOW SATISFIES THE LINEARIZED GASDYNAMIC EQUATIONS. IT IS SHOWN THAT THE DIFFICULTIES INVOLVED IN SOLVING EQUATIONS WITH A LARGE NUMBER OF INDEPENDENT VARIABLES CAN BE SUBSTANTIALLY SIMPLIFIED BY ELIMINATING, WITHIN THE FRAMEWORK OF LINEAR THEORY, THE NEED OF CALCULATING A DETAILED FLOW PATTERN BY REDUCING THE DETERMINATION OF THE PULSES TO A PROBLEM OF LOWER DIMENSIONALITY. THIS IS ACHIEVED BY DETERMINING THE SUMMARY PULSES OVER A PORTION (OR THE ENTIRE) TRANSIENT PROCESS, RATHER THAN FOR EACH INDIVIDUAL MOMENT OF TIME.

UNCLASSIFIED

USSR

UDC 681.141

KOTLYAROV, YE. V., GOLUBINSKIY, V. N., and SIDEL'NIKOV, YE. I., Ryazan
Accounting, and Analytical Machine Factory

"A Tens Carrying Mechanism"

USSR Author's Certificate No 372556 kl G 06 s 15/26, filed 18 Mar 70, published
25 Apr 73 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika,
No 11, Nov 73, abstract No 11 A357 P)

Translation: A mechanism is proposed for carrying tens, containing a sector on
the axis which is connected to a counting wheel and catch. To improve the
reliability of operation of the mechanism, it contains a jointed push rod in
contact with the catch, a projection kinematically connected to the drive and to
the recess in which the axis and joint are located, attached to the sector.
One illustration.

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USSR

UDC 576.851.45.098.31:577.158.8

GOLUBINSKIY, YE. P., RUBLEV, B. D., KIRDEYEV, V. K., and SAGATOVSKIY, V. N.,
Rostov-na-Donu Antiplague Institute

"Cytochromes of Plague Bacteria"

Moscow, Voprosy Meditsinskoy Khimii, Vol 19, No 1, Jan/Feb 73, pp 38-42

Abstract: Differential spectrophotometry of intact cells and empty membranes of *Pasteurella pestis* strains EV and No 17 revealed beta and alpha absorption maxima, indicating the presence of cytochromes b_1 , b , and a_2 . Photoreactivation of respiration with monochromatic blue and green light (400-480 and 510-600 mμ) in a 1:5 mixture of oxygen and carbon monoxide also established the presence of cytochrome O, which is the terminal oxidase in the plague bacterium's electron transfer chain, reacting directly with oxygen. The quantity of cytochromes in *P. pestis* is approximately the same as in other heterotropic microorganisms. Comparison of the concentration of cytochromes per mg of intact bacteria and per mg of empty membranes indicates that the cytochromes are attached to the membranes.

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Microbiology

USSR

UDC 576.851.45.098(612.262:612.398.145.1)

GOLUBINSKIY, Ye. P.; RUBLEV, B. D.; KIRDEYEV, V. K.; Antiplague
Institute, Rostov-na-Donn

"Oxidative Phosphorylation in Plague Microbes"

Moscow, Voprosy Meditsinskoy Khimii, Vol 17, No 5, Sep/Oct 71,
pp 512-516

Abstract: The oxidation of NAD-N₂ in subcellular preparations of two *P. pestis* strains, EV and No 17, was combined with phosphorylation. The highest P/O ratio (0.58) was noted for a mixture of fractions of cytoplasmic membranes and the soluble proteins of the microbial cell. The efficiency of oxidative phosphorylation in *P. pestis* preparations depends on the concentration of inorganic phosphate in the test medium, as well as on the oxidation process during incubation of the microorganism. Sodium amytal, antimycin A, potassium cyanide and 2,4-dinitrophenol inhibit, in varying degrees, NAD-N₂ oxidation and associated phosphorus esterification.

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USSR

UDC 576.851.45.098.31:577.158

GOLUBINSKIY, Ye. P. and BORZENKOVA, V. I., Antiplague Institute, Rostov-na-Donu

"Pasteurella pestis Dehydrogenases"

Moscow, Voprosy Meditsinskoy Khimii, No 3, 1970, pp 276-280

Abstract: Cell-free enzyme preparations obtained from Pasteurella pestis cultures (strains EV and 17) were capable of dehydrogenating NAD-H₂, NADP-H₂, malic, succinic, and lactic acids, and reducing oxalic and pyruvic acids. The enzymes that catalyze the above reactions can be divided into two groups: (i) dehydrogenases dependent on pyridine cofactors, and (ii) dehydrogenases that directly reduce 2,6-dichlorophenol indophenol. Cultivation conditions are an important factor. For example, the activity of the enzymes that catalyzed the dehydrogenation of NAD-H₂ and NADP-H₂ increased when bacteria were cultured at 37°C. Under anaerobic conditions, the activity of the diaphorases and malic dehydrogenase also increased significantly.

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1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--DEHYDROGENASES OF PLAGUE GERM -U-
AUTHOR-(02)-GOLUBINSKIY, YE.P., BORZENKOVA, V.I.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY MEDITSINSKOY KHMII, 1970, VOL 16, NR 3, PP 276-280
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DEHYDROGENASE, PLAGUE, ENZYME ACTIVITY, ACETIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/0396 STEP NO--UR/0301/70/016/003/0276/0280
CIRC ACCESSION NO--AP0122576
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AIM OF THIS WORK IS THE STUDY OF SOME PROPERTIES OF PLAGUE GERM DEHYDROGENASES AND THEIR ORGANIZATION IN BACTERIAL CELL. IT WAS ESTABLISHED THAT MALATE DEHYDROGENASE AND ENZYMES REDUCING THE OXALOACETIC AND PYRUVIC ACIDS ARE SOLUBILIZED AFTER THE DISTRUCTION OF CELLS, AND THEIR ACTIVITY IS NAD DEPENDED. SUCCINATE AND LACTATE DEHYDROGENASE WERE TIGHTLY BOUNDED TO CELLULAR MEMBRANES. THESE ENZYMES AS WELL AS NAD H SUB2 AND NADP H SUB2 DEHYDROGENASES WERE ABLE TO DIRECT REDUCTION OF 2,6,DICHLOROPHENOLEINDOPHENOLE.
FACILITY: ANTI PLAGUE INSTITUTE, ROSTOV ON DON.

UNCLASSIFIED

Acc. Nr.:

170046523

USSR

Ref. Code:

21R0144

UDC 681.142.32

GOLUBINTSEV, VLADIMIR OLEGOVICH, Senior Engineer of the Computation Center of Novocherkassk Polytechnical Institute, RUPAYEV, VALERIY MITUOFA-NOVICH, Senior Engineer of the Computation Center of Novocherkassk Polytechnical Institute, SINEL'NIKOV, YE. M.

"Basic Operating Principles and Structure of All-Purpose Digital Computers"

Novocherkassk, Izvestiya Vysshikh Uchebnykh Zavadeniy, Elektromekhanika (News of the Institutions of Higher Learning, Electromechanics), No 1, 1970, pp 99-104 (from Izvestiya Vysshikh Uchebnykh Zavadeniy, Elektromekhanika, No 1, 1970, p 115)

Translation: This article contains a study of the most important characteristic features and principles inherent in the functional structure of all-purpose digital computers and the possibilities of their technical realization. A comparative analysis of the operation of the man-calculator and the digital computer is made. Basic elements and units are described in brief, and the structural diagram of a digital computer is presented. The machine cycle is investigated. There is 1 illustration.

Reel/Frame
19781780

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--APPLICATION OF COLORLESS LACQUERS ON SMALL BRASS ARTICLES -U-

AUTHOR-(04)-GOLUBITSKAYA, M.L., TYULENEVA, N.N., OTOPKOV, G.M., PODGAINYY,
I.M.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 51-3

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LACQUER, BRASS, PHENOLIC RESIN, ALKYD RESIN, EPOXY RESIN,
MELAMINE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/D09 STEP NO--UR/0303/70/000/002/0051/0053

CIRC ACCESSION NO--AP0140298

NOT ACCEPTED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SMALL BRASS ARTICLES (BUCKLES, HASPS, KNOBS, HINGES, ETC.) ARE USUALLY LACQUERED BY HAND OR IN A ROTATING DRUM, AND THE COATING IN A DRUM IS SATISFACTORY PROVIDED SIMILAR TO 1 G LACQUER IS USED FOR 100 G ARTICLES, THE ROTATION IS 15 RPM AND THE TIME OF RESIDENCE 5-7 MIN. A CENTRIFUGE IS DESCRIBED WHICH GIVES MUCH HIGHER PRODUCTION RATES (LESS THAN OR EQUAL TO 10,000 ARTICLES-HR), ECONOMY, AND BETTER COATING UNIFORMITY. THE LACQUERS USED ARE BASED ON PHENOLIC ALKYD EPOXY RESINS, ACRYLIC RESINS, OR MELAMINE ALKYD RESINS.

UNCLASSIFIED

USSR

UDC: 551.596:534.143

GOLUBKOV, A. G., ZHEZHERIN, A. R.

"Investigation of the Time Structure of a Signal Reflected From an Elastic Sphere in Water"

Leningrad, Tr. Leningr. in-t aviats. priborostr. (Works. Leningrad Institute of Aviation Instrument Building), 1972, vyp. 76, pp 24-34 (from RZh-Fizika, No 5, May 73, abstract No 5Zh641 [résumé])

Translation: The authors consider reflection of a short sinusoidal pulse from an elastic sphere. A mathematical description is given of the time function of the emitted signal, and its spectral characteristics are calculated. The time function of the reflected signal is calculated from the function of reflection $f_{\infty}(ka)$ of an elastic sphere submerged in water. Experimental results are given. The spheres were exposed to a signal with a narrower band than the value used in the calculations. It is shown how the duration of actually emitted pulses affects the possibility of recognizing materials of spheres.

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- 14 -

USSR

UDC: 533.697

GOLUBKOV, A. G., KOZ'MENKO, B. K., OSTAPENKO, V. A., SOLOTCHIN, A. V., Institute of Theoretical and Applied Mechanics Siberian Department of the Academy of Sciences of the USSR, Novosibirsk

"Concerning the Interaction Between an Underexpanded Supersonic Jet and a Flat Bounded Obstacle"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(208), vyp. 3, Oct 1972, pp 52-58

Abstract: The authors study certain kinds of interaction between a supersonic underexpanded jet and a flat bounded obstacle as a function of the gasdynamic parameters of the jet and the geometric characteristics of the jet-obstacle system. The conditions for transition from stationary to non-stationary flow around the obstacle are experimentally determined. The effect of the obstacle on displacement of the central compression shock is analyzed. Computer processing of experimental data by the method of least squares shows that the dimensions and location of zones of self-oscillations cease depending on the Mach number of the gas flow in the outlet section of the nozzle.

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USSR

UDC: 533.697

GOLUBKOV, A. G., DULOV, V. G., Institute of Theoretical and Applied Mechanics, Siberian Department of the Academy of Sciences of the USSR, Novosibirsk

"Interaction Between Supersonic Jets and Obstacles (Axisymmetric Problem)"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(208), Issue 3, Oct 73, pp 29-32

Abstract: An analytical solution is constructed on the basis of a linear approximation of the dependence of velocity on pressure, which enables determination of the position of the central jump in the jet, and reduces the problem of flow of an uncalculated jet against an obstacle to the problem of flow of a nonuniform stream around some body with attached compression shock. The analysis is done within the framework of a model of an inviscid and thermally nonconductive gas, assuming axial symmetry for the entire stream. The obstacle is located within the range of the initial gasdynamic section of the nonstandard jet, and its transverse dimensions are of the same order, or are great in comparison with the transverse dimensions of the oncoming jet. The proposed method can be used for a rough estimate of

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GOLUBKOV, A. G., DULOV, V. G., Izv. SO AN SSSR, Ser. Tekhn. Nauk, No 13(208),
Issue 3, Oct 72, pp 29-32

the coordinates of the central compression shock. Such estimates can be
used for "ranging" in computer calculations of the entire flow field when
a jet strikes an obstacle.

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USSR

UDC 678.84:678.643'42'5.028

KRUSTALEVA, YE. N., GOLUBKOV, G. YE., ZHINKIN, D. YA., SEMENOVA,
YE. A., MARKOVA, N. V., and LUSHNIKOVA, M. N.

"A New Hardner Which Improves the Thermal Stability of Epoxy Resins"

Moscow, Plasticheskiye Massy, No 1, Jan 70, pp 12-14

Abstract: An investigation was made into the possibility of improving the physicomachanical and dielectric properties of epoxy resins in the high-temperature region by using hexamethylcyclotrisilazane $\text{[(CH}_3\text{)}_2\text{SiNH]}_3$ and polyorganosilazanes containing di- and trifunctional units of the general formula $\text{[R}_2\text{SiNH)] [R'Si(NH)]}_{1.5}^n$ (R = CH_3 , R' = CH_3 , C_6H_5 , n = 1, 3) as hardeners. Polymers based on ED-6 epoxy resin and MSN-7 resin (polymethylsilazane) were studied. The compositions were hardened at 120°C for 3 hours, and then additionally heat treated at 150-200°C for 24 hours. The resultant polymers have better thermal stability in the high temperature region than those in which endic anhydride is used as the hardner. The weight of the epoxy resin hardened by MSN-7 stabilizes after ten days at 250°C whereas the epoxy resin produced by using endic anhydride as a hardner is destroyed under the same conditions with a sharp increase in weight losses. Not only is the thermal stability of the new product improved,

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KHRUSTALEVA, YE. N., et al., Plasticheskiye Massy, No 1, Jan 70,
pp 12-14

but its mechanical strength and dielectric properties as well. Of particular importance is additional heat treatment at 200°C, which increases the maximum tensile strength of the resin at 155°C from 38 kg/cm² (after heat treatment at 150°C) to 152 kg/cm², and reduces the relative longitudinal extension at fracture (155°C) from 4.5% (after heat treatment at 150°C) to 4.0%. The electrical strength of the new resin at 155°C is 9.8×10^{13} kW/mm as compared with 1.3×10^{13} kW/mm for resin hardened by endic anhydride. The corresponding figures for the dielectric dissipation factor at 50 Hz (155°C) are 0.002 and 0.085 respectively. The new resin also has a lower coefficient of linear expansion in both the vitreous and highly elastic states.

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- 74 -

Acc. Nr:

AP0052502

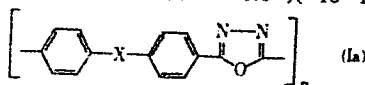
Abstracting Service:

CHEMICAL ABST. 5-7c

Ref. Code:

4R 0460

101310t Effect of structural phenomena on the electrophysical properties of oxadiazole polymers. Korshak, V. V.; Mamedov, V. M.; Golubkov, G. E.; Tur, D. R. (Inst. Elementoorg. Soedin., Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 57-9 (Russ). The dielec. permeability, dielec. loss factor ($\tan \delta$), and elec. cond. (ρ_v) of Ia (X = O) (I) and Ia (X = phthalidyldene) (II) were detd. at 0.5×10^2 - 0.5×10^4 Hz and -100 to



+400°. I and II were prepd. by polycyclization in polyphosphoric acid and cast on a glass support to form films 50 μ thick. A plot of $\tan \delta$ vs. temp. showed that a substitution of an ether bond for a phthalidyldene group brought about a significant increase in the max. of $\tan \delta$, (due to a relaxation of the polar groups) and a slight decrease in activation energy. A plot of ρ_v vs. temp. for I had an inflection, suggesting that a transition into another state had occurred. Heat treatment of I or II in vacuo at 250° failed to affect the dependence of ρ_v on temp.

CKJR

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Acc. Nr.

AP0045175

Abstracting Service:
CHEMICAL ABST.

5-70

Ref. Code

UR0191

G

91097n New hardener which increases the thermal stability of epoxy resins. Khrustaleva, E. N.; Golubkov, G. E.; Zhinkin, D. Ya.; Semenova, E. A.; Markova, N. V.; Lushnikova, M. N. (USSR). *Plast. Massy* 1970, (1), 12-14 (Russ). The thermal stabilities of epoxy resins ED-5 and ED-6 hardened with hexamethylcyclotrisilazane, poly(methylsilazane) (resin MSN-7) (I), and poly(methylphenylsilazane) were detd. Thus, ED-6 was hardened with I (0.8 active H present in I per epoxy equiv. ED-6) at 120° for 3 hr followed by addnl. heating at 150-200° for 2 hr. ED-6 hardened with I had higher tensile strength, impact elasticity, and thermal stability than ED-6 hardened with Endic Anhydride. CKJR

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REEL/FRAME
19780075

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Instrumentation and Equipment

USSR

UDC 669.24.053.4(088.8)

TSVETKOV, V. S., KHAIZOV, B. D., and GOLUBKOV, K. N.

"Device of Extraction of Metals from Solutions"

USSR Author's Certificate No 313882, filed 4/05/70, published 18/11/71,
(from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G391 P
by G. Svedtseva).

Translation: A device is described for extraction of metals from solutions containing a reactor, stator winding, and doser. In order to stabilize the electromagnetic field and assure continuity of the process, a rotor is fastened to the stator winding, mechanically connected to the doser. A drawing of the device is presented, plus a description of its operating principle.

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